

Science Program Briefing: The Marshall Islands Whole Body Counting Program, Part I

Komlele ko ikijien Science program eo: Whole Body Count Program eo ilo Majol In, Paat I

*Terry Hamilton, Scientific Director
Marshall Islands Dose Assessment and Radioecology Program*

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EXECUTIVE SUMMARY : TAKE HOME MESSAGE

Ilo Tu Kadu In: Enaan ko jen būki

(abbreviated and simplified to aid understanding) (Kōkkadudu im kabidodoklok ñan jibañ kōmeleik)

1. The U.S. Department of Energy (DOE) has established 3 permanent whole-body counting (WBC) facilities in the Marshall Islands. These counting facilities are located on Enewetak, Majuro and Rongelap Atolls.

U.S. Department of Energy eo emōj an keboj 3 jikin whole body count (WBC) ko ilo Majōl in. Jikin kein rej pād ilo aelōñ in Enewetak, Majuro, im Rongelap.

2. The facilities are made available for people to receive a free test to measure how much radioactive cesium they have in their bodies. The facilities are operated and maintained by Marshallese technicians.

Jikin kein rebojak ñan jabdrewōt armej ñan aer bōk wāwen etale in ilo ejelok wōnāñ ñan joñe radioactive cesium eo epād ilo ānbwinnier. Jikin etale kein rej jermal im bojak kin jet Ri-Majōl ro rej lolorjaki im keboj kein jermal kein.



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3. A total of 1296 whole-body counts were performed in the Marshall Islands during 2018. Excluding volunteers from Utrōk Atoll, only a small fraction of people tested on Majuro (about 5%) had radioactive cesium in their bodies. On average, about 50% of people (or 1 out of every 2 people) tested on Enewetak and Rongelap Atoll had some level of detectable radioactive cesium in their bodies. Similarly, about half the people counted from Utrōk Atoll had some level of radioactive cesium in their bodies.

Ewōr joñane 1296 whole-body count ko jen 1048 armej ro kar būne er ilo iiō ne 2018 eo. Ilo ad jab kobaik tok ro rar bōk konaer jen aelōñ in Utrōk, eor jejjō wōt armej jen Majuro (joñane 5%) ear wōr radioactive cesium ilo ānbwinnier. Ilo ad lale, ewōr 50% in armej (ak juōn jen 2 armej) kar būne er ion Enewetak kab Rongelap im ear wōr jijidrikdrikin radioactive cesium ilo ānbwinnier. Ilo ejja wāween in wōt, enañin jimattan in armej ro jen Utrōk ear bar wōr jidrik mōttan radioactive cesium ilo ānbwinnier.



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4. The word that scientists use to express the amount of bodily harm caused by radiation is called ‘the radiation dose’. The dose or safety limit recognized by the Government of the Marshall Islands (GRMI) for cleanup of radioactive contamination is 15 millirem per year (or 0.15 milliSievert per year).

Naan eo scientist ro rej kōjerbale ñan kalikkar joñan jorāān ñan ānbwin jen radiation ej ‘the radiation dose’. Dose eo ak joñak eo kien eo an Majōl (GRMI) ej kile ikijen karreo in jorāān ko jen radiation ej 15 milirem ilo juōn iiō (ak 0.15 milliSievert ilo juōn iiō).

5. Based on the amount of radioactive cesium found in peoples’ bodies, NO individuals who received a whole-body count during 2018 exceeded the GRMI dose limit of 15 mrem per year.

Bedbed wōt ion joñan radioactive cesium eo loe iloan ānbwinnin armej, ejjelok armej en ear bōk bōnbōn in etale ilo 2018 eo ear le jen joñan in 15 mrem ilo juōn iiō im GRMI ej kile.



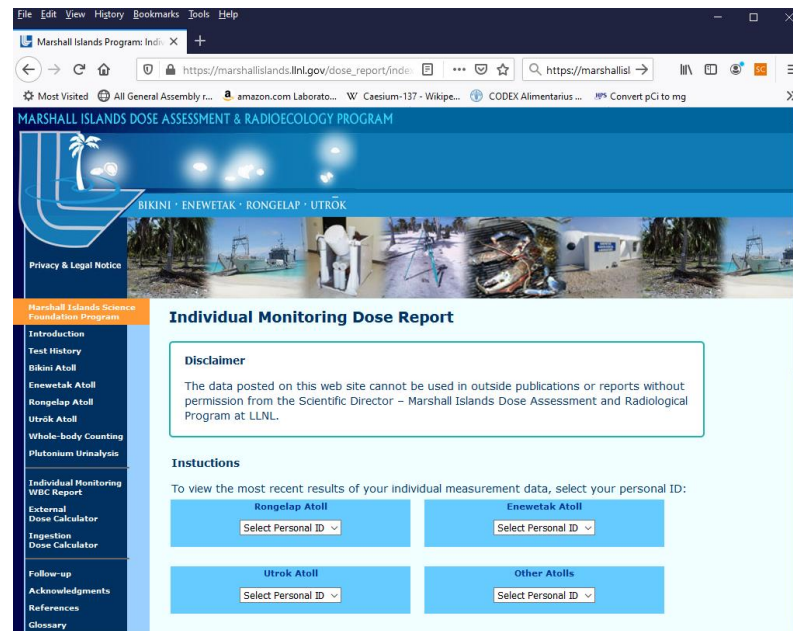
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6. Data and information from the whole-body counting program is made accessible on the internet at https://marshallislands.llnl.gov/dose_report/index.php/

Bōnbōn ko im melele ko ikijien whole-body count program in rej bellok ñan aolep ilo internet https://marshallislands.llnl.gov/dose_report/index.php/



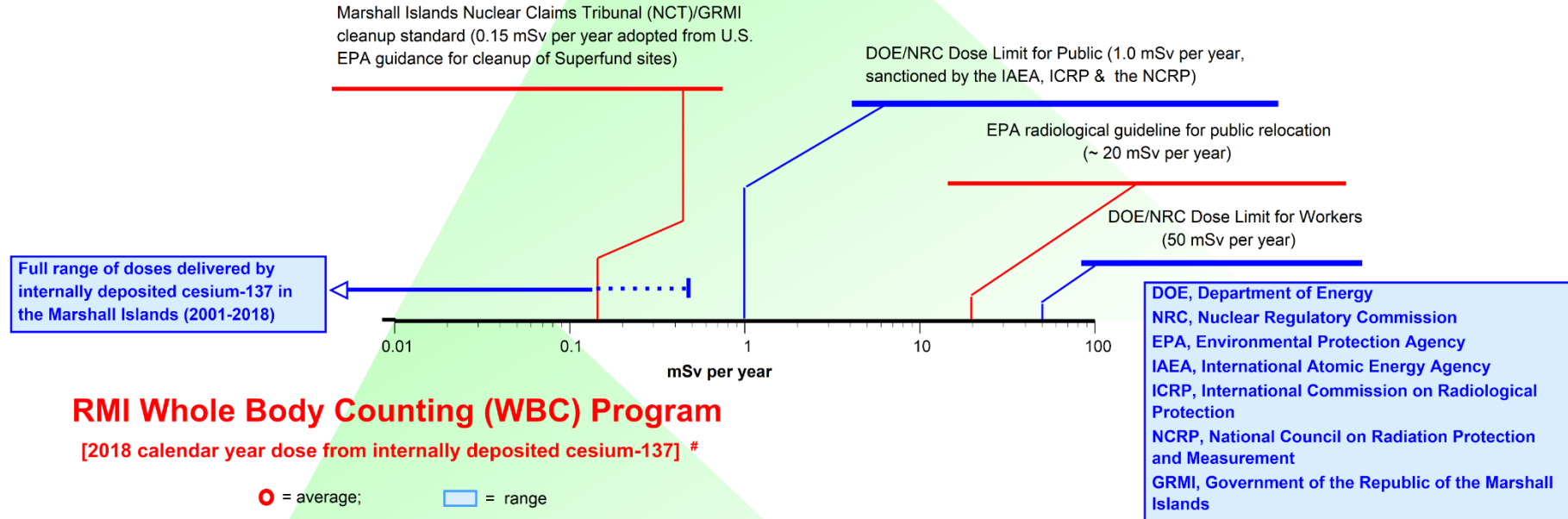
Radiation in the Marshall Islands

- Dose Ranges -

Absorbed Dose : expressed in Gray (Gy)
Dose Equivalent : expressed in Sievert (Sv)

1 Sv ~ 1 Gy for x-rays and gamma-rays
1 Sv = 1000 mSv
1 Gy = 100 Rad (conventional units)
1 mSv = 100 mrem (conventional units)

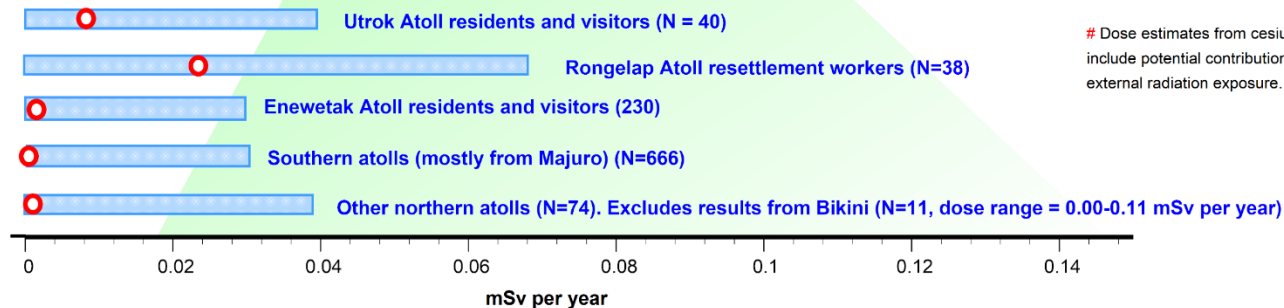
Acute Exposure = all at once
Chronic Exposure = over a long time [more than a year (for humans)]



RMI Whole Body Counting (WBC) Program

[2018 calendar year dose from internally deposited cesium-137] #

○ = average; □ = range



Dose estimates from cesium-137 based on the whole body counting program do not include potential contributions from other internally deposited fallout radionuclides or from external radiation exposure.

Prepared by LLNL under Contract DE-AC52-07NA27344. This chart is a simplified view of radiation quantities of potential interest to scientists, students, stakeholders, and the general public. Compiled by Terry Hamilton, LLNL (modified after Metting, 2008).